

RECENT CHANGES IN THE FOREST-FLORA OF THE
INTERIOR OF NEW SOUTH WALES.

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At my request Mr. Ridston, Forest Ranger of Condoblin, compiled his experience on the above subject, and wrote a report thereon to the Department of Mines. The Under-Secretary has kindly allowed parts of it, which I consider to be of general scientific interest, to be read before this Society. These, together with other observations, are used to explain certain interesting changes in the forest flora of the interior.

In 1863 there was little or no pine scrub (*Callitris*) in the Lachlan district. In 1883 the pine had taken possession of the district and was rapidly superseding the Angiosperm trees, which previously formed the forest in that district. It appeared to be only a question of time, when the forest would be converted into a pine forest. In 1885, when engaged in collecting timber specimens, Mr. Ridston could not obtain a single sound tree of any size with the exception of the pine. I myself visited the Mooramba district at the beginning of 1885 and found there a prevalence of pine which was, according to the statements of old residents, a new acquisition in that district.

The pine seemed to grow equally well in damp hollows and on dry hills.

It appears, however, that the pine has now reached its maximum development in that district, as patches of it are completely dying out in consequence of the ravages of a beetle, *Diadoxus erythrurus* or rather its larva. According to the statements of old residents, this beetle and its effects on the pine have never before been observed, and it would therefore appear that there is a

certain correlation between the beetle and the pine. There can be little doubt that the spread of this beetle is dependent to some extent on the prevailing climate.

The mean rainfall in Sydney from 1840-1863 was about 48 inches, whilst that of the period from 1863-1880 was about 55 inches. The mean rainfall for the period 1880-1884 was only about 40 inches.

As sufficient observations have not been made in the interior, we can only consider the Sydney results; and although it is doubtful whether there is much similarity in the rainfall of Sydney and the Interior, still it appears likely that a series of dry years in Sydney indicates an isochrone drought in the interior.

If we compare the observations mentioned above we shall arrive at the following result:—

1840-1863.	Average rainfall 48 inches. (Sydney.)	No Pine Scrub. Beetle?
1863-1880.	Average rainfall 55 inches. (Sydney.)	Pine Scrub spreading. No Beetle.
1880-1884.	Average rainfall 40 inches. (Sydney.)	Pine Scrub disappearing. Beetle prevalent.

It seems from this, that the drought is favourable to the spread of the *Diodoxus erythrurus* and that this beetle then destroys the pine, whilst the wet years prevent the development of this species, which seems to attack the pine only, and enables the pine scrub again to spread.

This little contribution to the influence of climate on the flora and fauna may perhaps hereafter be of use to scientists investigating this most important subject.